

# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D350-600 REV. E AND INSTRUCTIONS FOR  
CONTINUED AIRWORTHINESS ICA-D350-600 REV. 5 OR LATER APPROVED REVISION

REF. TCCA STC: SH93-88  
REF. FAA STC: SR00098NY, SR00099NY  
REF. EASA STC: EASA.IM.R.S.01292

## 1.0 PURPOSE

It has come to Dart's attention that the D3957-043/-044 Lower Door Hinge Assemblies that are part of the D350-600-541/-542 Sliding Door Hinge Kits at CHG 001 may fail prematurely in service. The purpose of this Service Instruction is to introduce the DSI 9814-011/-012 Replacement Hinge Kits with a stronger lower hinge design. The redesigned D3957-043/-044 Hinge Assemblies have a 0.31" thick base flange and are made of stainless steel (was 0.25" thick aluminum). D350-600-541/-542 Sliding Door Hinge Kits at CHG 002 and later include the improved lower hinge design.

## 2.0 PROCEDURE

To install the DSI 9814-011/-012 Replacement Hinge Kits,

2.1 Remove gas spring from the door.

2.2 Remove the AN4-17 Bolt, D3816-1/-3 Spacers, AN970-4 Washer and AN310-4 Castle Nut from the D3518-3 Rod End per Figure 1 and retain hardware. Take note of how many threads on the D3518-3 Rod End were protruding from the D3957-043/-044 Lower Door Hinge Assembly.

2.3 Remove the D3957-043/-044 Rev A Lower Door Hinge Assembly from the Sliding Door by removing the MS24693S274 Screws, NAS1149D0363J Washer and MS21042L3 Nut per Figure 1.

2.4 Install the new D3957-043/-044 Rev B Lower Door Hinge Assembly to the Sliding Door using the hardware shown in Figure 2.

NOTE: It is acceptable to install longer or shorter MS24693S2XX Screws to ensure 2-3 threads in safety

2.5 Adjust the D3518-3 Rod End to maintain the number of threads previously recorded in step 2.2. Install the Rod End onto the D3956-3 Lower Aircraft Hinge using the hardware from step 2.2 per Figure 2.

2.6 Open and close the door several times and verify no interference. Adjust door per ICA-D350-600 if required.

2.7 Tighten NAS509-6 Check Nut to 48-55 in-lb (5.4-6.2 N-m) after all adjustments have been made. Lockwire NAS509-6 Check Nut using MS20995C32 lockwire per AC 43.13 or MS33540.

2.8 Re-install gas spring.

2.9 Update the aircraft Weight and Balance per Section 3.0 of this service instruction. Update the aircraft logbook to indicate installation of the DSI 9814-011/-012 Replacement Hinge Kit.

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO #01-O-01

APPROVED

BY:

D. SHEPHERD (DE # 02)

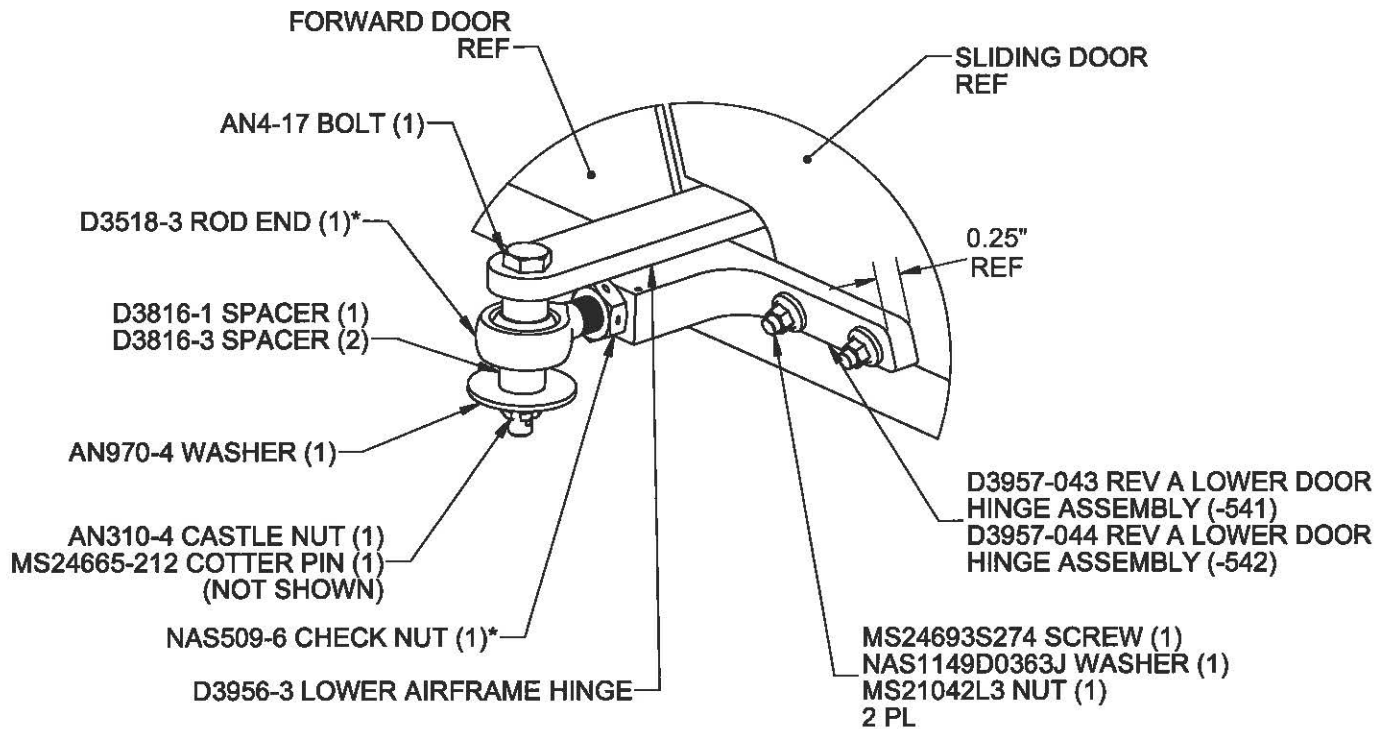
DATE: 18.11.30  
CERT. NO.: SH93-88  
ISSUE NO.: 6

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A	NEW ISSUE; REF CAR 18-250	VS	18.11.30
REV.	DESCRIPTION	BY	DATE
DESIGN	VS	DART AEROSPACE LTD	
DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9814	SHEET 1 OF 5
APPROVED	DSW	TITLE	SCALE
DE APPR.	DS	REPLACEMENT LOWER HINGE	NTS
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\*INCLUDED IN D3957-043/-044



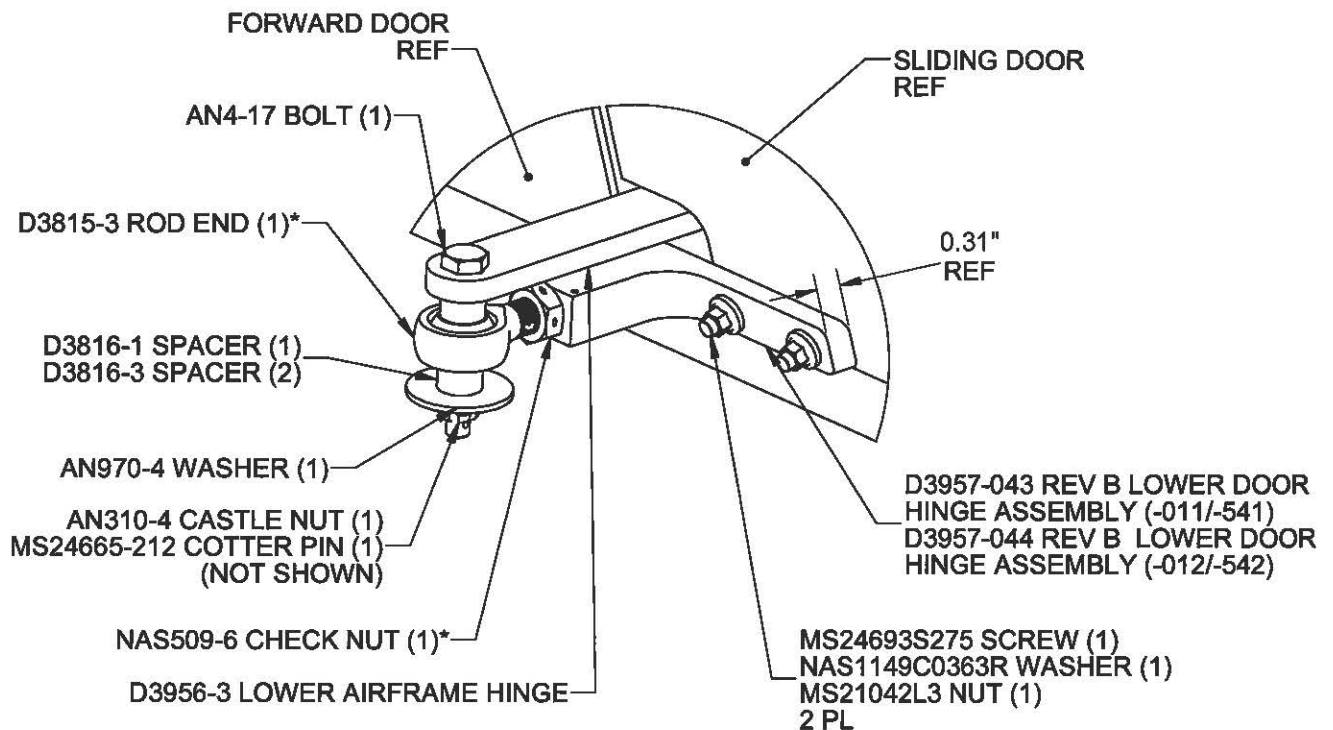
**FIGURE 1: LOWER HINGE ASSEMBLY (-541/-542 CHG 001)**  
 (-541 SHOWN, -542 SIMILAR)

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CHECKED	RF	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9814	SHEET 2 OF 5
APPROVED	DSW	TITLE	SCALE
DE APPR.	DS	REPLACEMENT LOWER HINGE	NTS
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\*INCLUDED IN D3957-043/-044



**FIGURE 2: LOWER HINGE ASSEMBLY (-541/-542 CHG 002)**

(DSI 9814-011 SHOWN, DSI 9814-012 SIMILAR)  
(-541 SHOWN, -542 SIMILAR)

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DRAWN	VS		
CHECKED	RF	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9814	SHEET 3 OF 5
APPROVED	DSW	TITLE	SCALE
DE APPR.	DSW	REPLACEMENT LOWER HINGE	NTS
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### **3.0 WEIGHT AND BALANCE**

The following table shows the net weight increase associated with upgrading the D350-600-541/-542 Sliding Door Hinge Kits at CHG 001 with the DSI 9814-011/-012 Replacement Hinge Kits.

INSTALLATION	WEIGHT	LONGITUDINAL		LATERAL	
		ARM	MOMENT	ARM	MOMENT
<b>DSI 9814-011</b> <i>REPLACEMENT HINGE, LH</i>	0.18 lb 0.08 kg	78 in 1.98 m	14.0 in-lb 0.16 m-kg	-34 in -0.86 m	-6.1 in-lb -0.07 m-kg
<b>DSI 9814-012</b> <i>REPLACEMENT HINGE, RH</i>	0.18 lb 0.08 kg	78 in 1.98 m	14.0 in-lb 0.16 m-kg	34 in 0.86 m	6.1 in-lb 0.07 m-kg

The Weight and Balance of the D350-600-541/-542 Sliding Door Hinge Kits at CHG 002 and later is as follows:

INSTALLATION	WEIGHT	LONGITUDINAL		LATERAL	
		ARM	MOMENT	ARM	MOMENT
<b>D350-600-541</b> <i>LH SLIDING DOOR HINGE KIT</i>	2.68 lb 1.22 kg	78 in 1.98 m	209.0 in-lb 2.42 m-kg	-34 in -0.86 m	-91.1 in-lb -1.05 m-kg
<b>D350-600-542</b> <i>RH SLIDING DOOR HINGE KIT</i>	2.68 lb 1.22 kg	78 in 1.98 m	209.0 in-lb 2.42 m-kg	34 in 0.86 m	91.1 in-lb 1.05 m-kg

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DESIGN	VS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	VS		
CHECKED	RF	DRAWING NO.	REV. A
MFG. APPR.	N/A	<b>DSI 9814</b>	SHEET 4 OF 5
APPROVED	DSW	TITLE	SCALE
DE APPR.	DS	<b>REPLACEMENT LOWER HINGE</b>	NTS
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#### 4.0 PARTS LIST

The Parts List for the DSI 9814-011/-012 Replacement Hinge Kits is as follows:

QTY -011	QTY -012	Part Number	Description
X		DSI 9814-011	Replacement Hinge Kit, LH
	X	DSI 9814-012	Replacement Hinge Kit, RH
1		D3957-043	Lower Door Hinge Assembly (Rev. B or later)
	1	D3957-044	Lower Door Hinge Assembly (Rev. B or later)
2	2	MS21042L3	Nut
1	1	MS24665-212	Cotter Pin
2	2	MS24693S275	Screw
2	2	NAS1149C0363R	Washer

The Parts List for the D350-600-541/-542 Sliding Door Hinge Kits is revised as follows:

WAS:

QTY -541	QTY -542	Part Number	Description
X		D350-600-541	LH Sliding Door Hinge Kit (at CHG 001)
	X	D350-600-542	RH Sliding Door Hinge Kit (at CHG 001)
1		D3957-043	Lower Door Hinge Assembly (Rev. A)
	1	D3957-044	Lower Door Hinge Assembly (Rev. A)
4	4	MS24693S274	Screw
11	11	NAS1149D0363J	Washer

IS:

QTY -541	QTY -542	Part Number	Description
X		D350-600-541	LH Sliding Door Hinge Kit (at CHG 002 or later)
	X	D350-600-542	RH Sliding Door Hinge Kit (at CHG 002 or later)
1		D3957-043	Lower Door Hinge Assembly (Rev. B or later)
	1	D3957-044	Lower Door Hinge Assembly (Rev. B or later)
2	2	MS24693S274	Screw
2	2	MS24693S275	Screw
2	2	NAS1149C0363R	Washer
9	9	NAS1149D0363J	Washer

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DESIGN	VS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	REV. A
DRAWN	VS		
CHECKED	RF	DRAWING NO.	SHEET 5 OF 5
MFG. APPR.	N/A	<b>DSI 9814</b>	
APPROVED	DSW	TITLE	SCALE
DE APPR.	DS	<b>REPLACEMENT LOWER HINGE NTS</b>	
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